

SAMPLING METHODS AND SYSTEMS THAT SHORTEN READOUT TIME  
AND REDUCE LAG IN AMORPHOUS SILICON FLAT PANEL X-RAY  
DETECTORS

ABSTRACT

[0033] Sampling methods and systems that shorten readout time and reduce lag in amorphous silicon flat panel x-ray detectors are described. Embodiments comprise: (a) activating a reset switch to discharge any residual signal being held in a feedback capacitor; (b) deactivating the reset switch; (c) activating a field effect transistor; (d) sampling an electrical signal from the amorphous silicon flat panel x-ray detector, while the field effect transistor is activated; (e) activating a reset switch, after the electrical signal has been sampled and while the field effect transistor is still activated, to discharge any residual signal being held in the feedback capacitor; (f) deactivating the field effect transistor, while the reset switch is still activated; (g) deactivating the reset switch; and (h) repeating steps (c)–(g) as necessary to obtain a predetermined radiographic image.